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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/595,973	05/23/2006	Per Johansson	P18587-US1	1050

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EXAMINER	
PHAM, TIMOTHY X	
ART UNIT	**PAPER NUMBER**
2617	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/595,973	JOHANSSON ET AL.	
	Examiner	Art Unit	
	TIMOTHY PHAM	2617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *08 September 2009*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *36-70* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *36-70* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments with respect to claims 36-70 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 36-37, 39-49, 51-68, and 70 are rejected under 35 U.S.C. 103(a) as being unpatentable over Steinberg (US 2004/0136324; Cited in PTO-892 Part of Paper No. 20090603) in view of Stolorz et al. (hereinafter "Stolorz"; US 2003/0065762).

Regarding claims 36, 53, 59, and 68, Steinberg discloses a method, a communication system, a network-based traffic control server, and a mobile multi-access terminal for traffic control (Abstract, e.g., path optimization for routing) in a communication system comprising a plurality of access networks (Abstract; Fig. 1, references 120A through 120 N) and at least one mobile multi-access terminal (Fig. 1, reference 175), said method comprising the steps of:

receiving, at a network-based traffic control server of the communication system (Fig. 1, reference 130, e.g., core network innerconnect), access-related information from at least a subset of the access networks (paragraphs [0023], [0028]);

coordinating the access-related information at the traffic control server (paragraphs [0029], [0038], [0040], e.g., core network interconnect 130 is utilized in one of the selected paths, and providing for the access network 120 to control routing choices);

determining a traffic control signal through adaptive traffic control calculations based on the coordinated access-related information (paragraphs [0022]-[0023], [0047], [0052], e.g., The network interface 215 is utilized for transmission and reception of communication sessions (packet or circuit switched), for routing of communication sessions, and for transmission and reception of various messages discussed below, such as the hand-off requests, routing choices, and routing determinations. In general, the network interface 215 provides a communication and/or signaling interface to and from any communication medium, of any kind, as may be known or become known in the art, such as wireless, wireline, coaxial cable, fiber optic, and so on, in accordance with any applicable protocols, such as IP or TCP/IP, or any applicable form of modulation or signaling, such as the signaling protocols of CDMA, GSM, signaling system 7 (SS7), IS 634 A1, IS 634 A7, Iu, or Iur); and

spreading traffic over the access networks in response to the traffic control signal (paragraphs [0028], [0043], [0046]-[0047], e.g., each network element having a path optimization functionality may perform this function, for path segments or path portions (paths through ingress and egress points) within its domain (such as for the facilities, regions and equipment under its control), and may also broadcast its results to other network elements. Those network elements involved in the ultimate, overall path decision process may utilize this broadcast information in determining the optimal, complete (or overall) path through the system 100).

Steinberg fails to specifically disclose at a traffic control client of the multi-access terminal.

However, Stolorz discloses an adaptive traffic control (ATC) mechanism which provides domain name service to a client based on policies. The traffic control client distributes traffic over the access networks in response to the traffic control signal (paragraphs [0058], [0079], e.g., The ATC administrative framework 142 is responsible for various administrative tasks associated with subscribers or other policy making entities (138), include manipulating and storing the ATC policies 200, propagating or broadcasting the ATC policies 200 to name servers in the ATC name server network 140, monitoring name server behavior, generating status reports to display monitoring results on appropriate media, and sending alert to a network operation center).

Therefore, taking the teachings of Steinberg in combination of Stolorz as a whole, it would have been obvious to one having ordinary skill in the art at the time of the invention by applicant to have a traffic control client which distributes traffic over the access networks in response to the traffic control signal in order to optimize traffic distribution.

Regarding claims 37, 54, and 60, Steinberg in combination with Stolorz discloses the method, the system, and the server of claims 36, 53, and 59 respectively above, wherein the adaptive traffic control calculations involves iteratively executing an adaptive traffic control algorithm for reaching a predetermined control objective (Steinberg: paragraphs [0053], [0055], [0057]-[0059], [0063], e.g., additional iterations of the method are needed for other potential paths of the target matrix).

Regarding claims 39 and 61, Steinberg in combination with Stolorz discloses the method and the server of claims 36 and 59 respectively above, wherein said determining step is performed at the traffic control server and involves a traffic-spread decision by the traffic control server, said method further comprising the step of forwarding the traffic spread decision to the traffic control client (Steinberg: paragraphs [0022], [0029], [0038], [0040], [0045], e.g., providing an ordering or ranking of viable paths).

Regarding claims 40 and 55, Steinberg in combination with Stolorz discloses the method and the system of claims 36 and 53 respectively above, wherein the determining step is performed at the traffic control server, said method further comprising the steps of:

transmitting a traffic distribution recommendation comprising the traffic control signal from the traffic control server to the traffic control client (Steinberg: paragraphs [0022], [0029], [0038], [0040], [0045]); and,

deciding, at the traffic control client, how to spread traffic over the access networks based on the traffic distribution recommendation (Steinberg: paragraphs [0022], [0029], [0038], [0040], [0045], e.g., based upon its resources or resources under its control (i.e., its segments), will perform an access network path optimization function from its perspective).

Regarding claim 41, Steinberg in combination with Stolorz discloses the method of claim 39 above, further comprising the step of receiving, at the traffic control server, terminal-specific access information from the multi-access terminal, the terminal-specific access information being used in the determining and/or deciding step at the traffic control server (Steinberg: paragraphs [0022], [0029], [0038], [0040], [0045]).

Regarding claim 42, Steinberg in combination with Stolorz discloses the method of claim 36 above, further comprising the step of forwarding the coordinated access-related information from the traffic control server to the traffic control client, and wherein the determining step is performed at the traffic control client server (Steinberg: paragraphs [0022], [0028]-[0029], [0033], [0038], [0040], [0045]).

Regarding claim 43, Steinberg in combination with Stolorz discloses the method of claim 36 above, wherein the traffic spreading step is further based on terminal requirements and/or access network requirements (Steinberg: paragraphs [0013], [0021], [0033], [0044], [0054], [0056], e.g., insufficient bandwidth was available through core network for the requirements of the particular communication session, necessitating routing through the access network).

Regarding claim 44, Steinberg in combination with Stolorz discloses the method of claim 36 above, wherein, for a communication system with a plurality of multi-access terminals, for at least a subset of the multi-access terminals, traffic controlling actions are performed at different network positions for different multi-access terminals requirements (Steinberg: paragraphs [0031], [0037], [0040], [0044]).

Regarding claim 45, Steinberg in combination with Stolorz discloses the method of claim 36 above, wherein the adaptive traffic control calculations involve minimizing the difference between a desired value and a current value of an access-related parameter (Steinberg: paragraphs [0039], [0050], [0055], [0057]-[0057], e.g., different weighting to the routing variables).

Regarding claim 46, Steinberg in combination with Stolorz discloses the method of claim 45 above, wherein the desired value of the access-related parameter is determined at the respective access network and included in the access-related information transmitted to the traffic control server from the respective access network (Steinberg: paragraphs [0039], [0050], [0055], [0057]-[0057]).

Regarding claim 47, Steinberg in combination with Stolorz discloses the method of claim 45 above, comprising the step of determining the desired value of the access-related parameter at the network-based traffic control server (Steinberg: paragraphs [0031], [0034], [0039]).

Regarding claim 48, Steinberg in combination with Stolorz discloses the method of claim 36 above, wherein the traffic spreading step at the traffic control client is session-based (Steinberg: paragraphs [0052], [0060], [0065]).

Regarding claim 49, Steinberg in combination with Stolorz discloses the method of claim 48 above, wherein said traffic spreading step comprises the steps of:

receiving a session request at the multi-access terminal (Steinberg: paragraphs [0023], [0028], [0047]);

selecting an access network for the session of the session request at the traffic control client in the multi-access terminal (Stolorz: paragraph [0069], e.g., Selection of a server from the subscriber server network 104 may be based on an adaptive, regularly updated map of the state of the Internet as well as adaptively updated policies); and,

associating the session with the selected access network at the traffic control client, whereby packets of the session are directed to the selected access network (Steinberg: paragraphs [0033], [0055], [0058], e.g., associated costs of the route).

Therefore, taking the teachings of Steinberg in combination of Stolorz as a whole, it would have been obvious to one having ordinary skill in the art at the time of the invention by applicant to select an access network for the session of the session request at the traffic control client in the multi-access terminal in order to optimize traffic distribution.

Regarding claim 51, Steinberg in combination with Stolorz discloses the method of claim 37 above, wherein the adaptive traffic control algorithm is selected from the group consisting of a proportional and integral (PI) control algorithm, a proportional, integral and derivative (PID) control algorithm, a proportional (P) control algorithm, a minimum-variance control algorithm and an RST control algorithm (Steinberg: paragraphs [0034], e.g., using integral or differential operations on the variables).

Regarding claims 52 and 57, Steinberg in combination with Stolorz discloses the method and the system of claims 36 and 53 respectively above, wherein the traffic control server is associated with an overall access server with means for access handling, mobility and security (Steinberg: paragraphs [0033], [0043], e.g., user preferences may also be a variable, particularly with regard to types of services, security, cost).

Regarding claim 56, Steinberg in combination with Stolorz discloses the system of claim 53 above, having a plurality of multi-access terminals (Steinberg: Fig. 1, reference 175), wherein, for at least a subset of the multi-access terminals, different multi-access terminals

comprise traffic control means associated with different degrees of self-control (Steinberg: paragraph [0038], e.g., The corresponding network element may then perform its RPF calculations for each path segment within its target matrix, and may also provide an ordering or ranking of viable paths (e.g., by degree of optimality or goodness)).

Regarding claim 58, Steinberg in combination with Stolorz discloses the system of claim 53 above, wherein the access networks of the communication system include at least one access network using a technology selected from the group consisting of GPRS, WLAN, Ethernet, Bluetooth, WiFi, xDSL, CDMA, WCDMA and cable modem (Steinberg: paragraphs [0002], [0023], [0026], [0047], e.g., CDMA or GSM).

Regarding claim 62, Steinberg in combination with Stolorz discloses the server device of claim 59 above, wherein the traffic distribution information comprises a traffic distribution recommendation based on which traffic can be spread over the access networks (Steinberg: paragraphs [0022], [0029], [0038], [0040]-[0041], [0045], e.g., The arbitration procedure may be implemented non-distributively, residing in either the core network 110 or the access network 120, and not both, or as a negotiation, distributed among two or more network elements. Using the selected path from the arbitration or negotiation process, the communication session may then be routed accordingly).

Regarding claim 63, Steinberg in combination with Stolorz discloses the server device of claim 59 above, further comprising means for receiving terminal-specific access information from the multi-access terminal (Steinberg: paragraphs [0022], [0029], [0038], [0040], [0045]).

Regarding claim 64, Steinberg in combination with Stolorz discloses the server device of claim 59 above, wherein the coordinating step involves aggregating or processing the access-related information (Steinberg: paragraphs [0031], [0034], [0039]).

Regarding claim 65, Steinberg in combination with Stolorz discloses the server device of claim 59 above, wherein the adaptive traffic control calculations involve minimizing the difference between a desired value and a current value of an access-related parameter (Steinberg: paragraphs [0039], [0050], [0055], [0057]-[0057], e.g., different weighting to the routing variables).

Regarding claim 66, Steinberg in combination with Stolorz discloses the server device of claim 60 above, wherein the adaptive traffic control algorithm is selected from the group of a proportional and integral (PI) control algorithm, a proportional, integral and derivative (PID) control algorithm, a proportional (P) control algorithm, a minimum-variance control algorithm and an RST control algorithm (Steinberg: paragraphs [0034], e.g., using integral or differential operations on the variables).

Regarding claim 67, Steinberg in combination with Stolorz discloses the server device of claim 59 above, being associated with an overall access server with means for access handling, mobility and security (Steinberg: paragraphs [0033], [0043], e.g., user preferences may also be a variable, particularly with regard to types of services, security, cost).

Regarding claim 70, Steinberg in combination with Stolorz discloses the multi-access terminal of claim 68 above, wherein the means for spreading in turn comprises:

means for receiving a session request (Steinberg: paragraphs [0023], [0028], [0047]);

means for selecting an access network for the session of the session request at the traffic control client (Stolorz: paragraphs [0009], e.g., select one of the available networks based on the current network information and at least one of user preferences); and,

means for associating the session with the selected access network at the traffic control client, whereby packets of the session are directed to the selected access network (Steinberg: paragraphs [0033], [0055], [0058], e.g., associated costs of the route).

Therefore, taking the teachings of Steinberg in combination of Stolorz as a whole, it would have been obvious to one having ordinary skill in the art at the time of the invention by applicant to select an access network for the session of the session request at the traffic control client in the multi-access terminal in order to optimize traffic distribution.

4. Claims 38, 50, and 69 are rejected under 35 U.S.C. 103(a) as being unpatentable over Steinberg in combination with Stolorz in view of Rusch (US 2003/0100308; ; Cited in PTO-892 Part of Paper No. 20090603)

Regarding claims 38 and 69, Steinberg in combination with Stolorz discloses the method and the multi-access terminal of claims 36 and 68 above, fails to specifically disclose wherein the spreading step involves distributing traffic over at least two access networks substantially simultaneously.

However, Rusch discloses the spreading step involves distributing traffic over at least two access networks substantially simultaneously (paragraphs [0024], e.g., controller 110 also may maintain one or more wireless links with a network and permits the simultaneous communication with several networks).

Therefore, taking the teachings of Steinberg in combination of Stolorz and Rusch as a whole, it would have been obvious to one having ordinary skill in the art at the time of the invention by applicant to have the spreading step involves distributing traffic over at least two access networks substantially simultaneously in order to optimize traffic distribution.

Regarding claim 50, Steinberg in combination with Stolorz discloses the method of claim 36 above, further comprising the steps of:

assigning a respective mobility IP address for each access network of the multi-access terminal (Steinberg: paragraphs [0006], [0047], e.g., such as IP or TCP/IP); and,

Steinberg in combination with Stolorz fails to specifically disclose associating, at the multi-access terminal, the respective mobility IP addresses with respective virtual access network interfaces.

However, Rusch discloses associating, at the multi-access terminal, the respective mobility IP addresses with respective virtual access network interfaces (paragraph [0014], e.g., virtual private network (VPN)).

Therefore, taking the teachings of Steinberg in combination of Stolorz and Rusch as a whole, it would have been obvious to one having ordinary skill in the art at the time of the invention by applicant to associate, at the multi-access terminal, the respective mobility IP addresses with respective virtual access network interfaces l in order to optimize traffic distribution.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to TIMOTHY PHAM whose telephone number is (571)270-7115. The examiner can normally be reached on Monday-Friday; 7:30AM-5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vincent P. Harper can be reached on 571-272-7605. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/ Timothy Pham/
Examiner, Art Unit 2617

/VINCENT P. HARPER/
Supervisory Patent Examiner, Art Unit 2617